

## Correspondence

TO THE EDITOR, *British Journal of Venereal Diseases*

### Inhibition of gonococci by a selective medium: disparity between isolates from sexual partners

Sir,

A proportion of clinical isolates of *Neisseria gonorrhoeae* fail to grow on selective medium containing vancomycin, colistin, nystatin, and trimethoprim (VCNT). Reyn and Bentzon (1972) and Brorson *et al.* (1973) reported the isolation frequency of these strains to be about 4% and 10% respectively and found vancomycin to be the inhibitory component. The sensitivity of these strains to vancomycin has been attributed to env mutations which result in phenotypic hypersensitivity to antibiotics including vancomycin (Sparling *et al.*, 1976). Observations in this department suggest that other mechanisms may also be involved in the inhibition of certain gonococcal isolates by vancomycin.

The isolation and identification of gonococci have been previously described (Platt, 1976a). Ready-poured bi-plates, containing GC selective medium (VCNT) and GC non-selective medium, were obtained from Gibco-Biocult (Paisley, Scotland) and each batch was quantitatively quality-controlled to ensure consistent inhibitory activity. The isolation frequency of VCNT-sensitive gonococci remained constant at between 4% and 6%.

Gonococci were isolated from 32 patients attending the department of genitourinary medicine at the West London Hospital. From four (25%) patients and their respective sexual partners gonococci were isolated which grew on non-selective medium but failed to grow on selective medium on both primary isolation and subsequent subculture. Gonococci isolated from a further 12 patients failed to grow on selective medium on primary isolation; of these six were male and six were female.

On subculture each of five isolates tested produced colonies on selective medium which were similar in size and number to a control plate lacking VCNT. The gonococci isolated from each of the 12 sexual partners grew well on selective medium on primary isolation.

Reyn and Bentzon (1972) found that about 40% of strains, inhibited by vancomycin on primary isolation, were capable of growth on subculture if a heavy inoculum was used, and they attributed this result to random variation in the original inocula and a 'training effect' during laboratory subculture. The high proportion (75%) of disparate vancomycin sensitivity between sexual partners on primary isolation and the resistance of the vancomycin-sensitive isolates on subsequent subculture suggests that an alternative mechanism is involved.

Although env mutations have been demonstrated in clinical isolates of *N. gonorrhoeae* (Eisenstein and Sparling, 1978), for vancomycin sensitivity to be solely under env control would require both isolates from sexual partners to exhibit similar sensitivity to VCNT. The results obtained from four pairs of patients are compatible with this hypothesis. The disparate results obtained with 24 paired isolates may be explained as a function of the physiological state of the organism *in vivo*. For many organisms the immediate history of an inoculum affects the response to inhibitors (Farwell and Brown, 1971; Brown, 1977). The physiological state of gonococci determines their response to CO<sub>2</sub> deprivation (Platt, 1976b). Thus it seems likely that the physiological state of gonococci *in vivo* may predispose certain strains to vancomycin sensitivity on primary isolation.

Yours faithfully,  
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TO THE EDITOR, *British Journal of Venereal Diseases*

### Treatment of condyloma acuminatum with 5% 5-fluorouracil

Sir,

Podophyllin is still widely used in the treatment of condyloma acuminatum since its introduction in 1944, but the results are poor especially with multiple condylomata acuminata, when local side effects may be troublesome. Good results were obtained with 5-fluorouracil cream in the treatment of genital warts and the side effects were minimal (Handojo and Pardjono, 1973; Hayes, 1974; Dretler and Klein, 1975; Von Krogh, 1976). It was decided to see whether the results reported by these authors could be confirmed.

All men with condylomata acuminata were treated with 5% 5-fluorouracil cream until the condylomata were eradicated, usually after three to seven days. Patients were seen weekly for four weeks and followed up for three months. At each visit the distribution, number, and size of the warts were assessed and side effects recorded.

Forty-one male patients aged 15 to 39 years with condylomata acuminata of 15 to 60 days' duration, some of whom

had been previously treated with podophyllin, entered the study. Of these, 35 showed complete regression; 12 had skin condylomata, nine mucosal, nine skin and mucosal, three perianal, and two anal. The six patients who showed no reaction whatsoever all had mucosal condylomata and no reaction whatsoever occurred in these patients following the application of the 5-fluorouracil cream. The condylomata were eradicated in three to seven days.

Erythema, blistering, and superficial ulceration occurred in four patients and were controlled with the local application of copper sulphate. Eleven patients complained of slight erythema and one of a stinging sensation.

It is therefore considered justifiable to use 5-fluorouracil cream in all patients with genital warts under careful medical supervision.

Yours faithfully,

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TO THE EDITOR, *British Journal of Venereal Diseases*

#### *Campylobacter* species in male homosexuals

Sir,

There is growing awareness of the importance of *Campylobacter* species in the aetiology of mild diarrhoea (*British Medical Journal*, 1978). This appeared relevant to us in view of the reports of a high incidence of enteric pathogens in homosexuals in the United States (Drusin *et al.*, 1976; Meyers *et al.*, 1977; Vaisrub, 1977).

Following the unexpected growth of *Campylobacter* species on a routine specimen for culture for *Neisseria*

*gonorrhoeae* taken from a heterosexual man, who attended this department complaining of rectal bleeding, a prospective study of homosexual men was undertaken to see if there was any relation between *Campylobacter* species and anal intercourse.

Fifty consecutive male homosexuals from whom rectal specimens had been cultured for *N. gonorrhoeae*, were investigated. Routine charcoal swabs placed in Stuart's medium were plated on to Oxoid Base no. 2 containing 7% lysed horse blood, vancomycin 10 µg/ml, polymixin B 2.5 IU/ml, and trimethoprim 5 µg/ml (final concentrations). Plates were incubated at 40°C in an atmosphere of about 5% oxygen and 10% carbon dioxide in hydrogen in an anaerobic jar without catalyst. The plates were examined at 18 and 48 hours (Communicable Disease Surveillance Centre, unpublished report). *Campylobacter* species were not isolated from any rectal sample. It is concluded that *Campylobacter* species are uncommon organisms in male homosexuals attending this clinic.

Yours faithfully,

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TO THE EDITOR, *British Journal of Venereal Diseases*

#### Possible suppressor T lymphocyte activity in experimental syphilis

Sir,

In relation to the comments of Pavia *et al.* (1978) on the possible role of suppressor thymus-derived lymphocytes during

syphilis, we would like to report the following experiment.

Inbred CBA mice were used and fed on autoclaved water and an antibiotic-free diet. Mice aged 6 weeks were infected intraperitoneally with 0.5 ml of a suspension of *Treponema pallidum* (Nichols strain) adjusted to  $0.5 \times 10^6$  spirochaetes. The preparation of the suspensions of *T. pallidum*, the method of tissue homogenisation, and the measurement of treponemal immunofluorescent antibodies have previously been described (Wright *et al.*, 1974; Wright and Wharton, 1977).

In the first experiment 24 mice were infected and six were left uninoculated. In the second experiment 27 mice were infected, six were inoculated intraperitoneally with a heat-killed suspension of *T. pallidum*, and six were again left uninoculated. Cyclophosphamide (Wyeth Brothers, Maidenhead) 150 mg/kg was given intraperitoneally at weekly intervals from the end of the second week to the seventh week following infection. In the first experiment all but three infected mice were given cyclophosphamide and in the second all but six. In both experiments there was a group of six mice that received only cyclophosphamide. Plasma was examined from all the mice before inoculation and at weekly intervals from the third to the seventh week following inoculation. The livers, spleens, kidneys, and hearts were taken from three cyclophosphamide-treated animals at weekly intervals and homogenised. The supernatants were then examined for the presence of spirochaetes.

All plasma from the infected control mice gave an immunofluorescent titre of  $> 625$  at the seventh week indicating that infection had taken place. No antibodies or spirochaetes were found in plasma from any other mice. No spirochaetes were seen in the supernates from homogenised tissues on darkground examination with the exception of three spirochaetes seen in the supernate of one liver homogenate taken on the third week from one of the mice in the first experiment.

The experiments indicate that cyclophosphamide does not enhance the multiplication of *T. pallidum*, and more surprisingly the infection is controlled in the absence of detectable antibody. It is relevant that in similar experiments in which some mice treated with one injection of cyclophosphamide 150 mg/kg and infected with *Borrelia duttoni* (STIB 503)